PROBLEM SET 9-5
(Adding and Subtracting Rational Expressions)

Add or Subtract. Simplify where possible.

1. $\dfrac{3}{4x} - \dfrac{2}{x^2}$

2. $\dfrac{3}{x+1} + \dfrac{x}{x-1}$

3. $\dfrac{4}{x^2-9} + \dfrac{7}{x+3}$

4. $\dfrac{x+2}{2x^2-x} + \dfrac{1}{2x}$

5. $\dfrac{5y}{y^2-7y} - \dfrac{4}{2y-14}$

6. $\dfrac{5y+2}{xy^2} + \dfrac{2x-4}{4xy}$

7. $\dfrac{3x}{x^2-9} - \dfrac{4}{2x-6}$

8. $\dfrac{x}{3x+9} - \dfrac{8}{x^2+3x}$

Simplify each complex fraction.

9. $\dfrac{\dfrac{2}{x+y}}{\dfrac{5}{x+y}}$

10. $\dfrac{\dfrac{2}{x}+\dfrac{3}{y}}{\dfrac{-5}{x}+\dfrac{7}{y}}$

11. $\dfrac{\dfrac{1}{xy}-\dfrac{1}{y^2}}{\dfrac{1}{x^2y}-\dfrac{1}{xy^2}}$

12. $\dfrac{\dfrac{3}{x-2}-5}{2-\dfrac{4}{x-2}}$